ABSTRACT

A spherical annular seal member 55 has a cylindrical inner surface 52 defining a through hole 51 in a central portion thereof, an outer surface 53 formed in the shape of a partially convex spherical surface, and an annular end face 54 on a large-diameter side of the outer surface 53. In its inner portion extending from the cylindrical inner surface 52 to the outer surface 53 formed in the shape of the partially convex spherical surface, the spherical annular seal member 55 has a reinforcing member 6 made from a compressed metal wire net 5, as well as a heat-resistant material, which contains expanded graphite, phosphorus pentoxide, and a phosphate, fills meshes of the metal wire net 5 of the reinforcing member 6, and is compressed in such a manner as to be formed integrally with the reinforcing member 6 in mixed form. The outer surface 53 formed in the shape of the partially convex spherical surface is formed into a smooth surface where an outer surface layer of the heat-resistant material containing expanded graphite, phosphorus pentoxide, and the phosphate and the reinforcing member 6 made from the metal wire net 5 and formed integrally with the outer surface layer in mixed form are exposed.